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1966



DISTRIBUTION

of the

VARIETIES OF OATS

grown in the

PRAIRIE PROVINCES

(1946 - 1966)

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CIRCULAR NO. 32

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LINE ELEVATORS FARM SERVICE

Winnipeg, Manitoba

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November, 1966

DISTRIBUTION OF THE VARIETIES OF OATS
GROWN IN THE PRAIRIE PROVINCES
(1946 to 1966)

Annual surveys to determine the distribution of the varieties of oats grown in Manitoba, Saskatchewan, and Alberta were begun by the Line Elevators Farm Service in 1946 and survey data for 20 years are now available. The results of annual surveys made from 1946 to 1958 were published in 1960.* This circular presents the results of oat variety surveys made at 5-year intervals since 1946.

METHODS

Each year, usually in June, each Agent (country grain buyer) of the Line Elevator Companies, sponsors of the Line Elevators Farm Service, was provided with a Variety Survey Form. He was asked to complete the form by estimating and recording the percentage of the total seeded acreage of oats in the district served by his elevator that individual oat varieties occupied. The number of usable variety survey forms that Agents in Manitoba, Saskatchewan, and Alberta completed and submitted each year varied from 2,252 in 1946 to 1,107 in 1965.

To determine the percentage of the total provincial and prairie oat acreage each variety occupied, the average of the acreage percentage estimates for individual shipping points was weighted in accordance with the total acreage of oats grown in the district. The seeded acreages of oats, by shipping points, as recorded by the Canadian Wheat Board were used for this purpose.

RESULTS

The survey data are summarized in the accompanying tables. A few highlights of the surveys are presented, by provinces and for the Prairie Provinces as a unit, below.

MANITOBA (Table 1)

Resistance to disease, particularly to the rusts and smuts, and better adaptability are the factors largely responsible for oat improvement in Manitoba. Thus the popularity of oat varieties grown in Manitoba has been more or less temporary depending on the prevalence of particular races of the organisms causing these diseases. The trend over the 20-year period, 1946 to 1966, has been for a new variety of oats with higher resistance to the rusts and smuts, to replace old varieties that are susceptible to these diseases.

* F. J. Greaney and J. Barnes. Distribution of Oat Varieties in the Prairie Provinces (1946 to 1958). Line Elevators Farm Service Circular No. 22, December, 1960.

Vanguard was the first rust resistant variety of oats developed in Canada. It was first distributed to farmers in Manitoba in 1936. Ten years later it accounted for 42.8% of all oats grown in this province. Although Vanguard is resistant to many races of stem rust it is susceptible to crown (leaf) rust, and to the smuts. Two new varieties possessing partial resistance to the rusts and smuts were introduced in 1941. These were Ajax and Exeter. Because of their added disease resistance and good adaptability the popularity of Exeter and Ajax increased rapidly in Manitoba. Together they occupied 65.5% of the Manitoba oat acreage in 1951.

The importance of growing rust resistant varieties of oats in Manitoba is emphasized by the fact that in 1951 three varieties - Vanguard, Ajax and Exeter - accounted for 88.9% of the total acreage of oats grown in Manitoba. By 1961 the once prominent oat varieties Victory, Banner and Gopher, which are susceptible to rust and other diseases, had virtually disappeared in Manitoba.

In recent years, Vanguard, Ajax, and Exeter, the partially rust resistant varieties, have been replaced by varieties that are more resistant to the rusts and smuts. The introduction of Rodney in 1953 initiated a marked shift in the oat varieties grown in Manitoba. This high yielding, thin hulled variety, with large white kernels, is resistant to most races of stem rust, to smut, and to Victoria blight. Consequently, it soon became a very popular variety in Manitoba. Three years after it was first distributed to farmers it was the leading variety in the province, accounting for 66.3% of the total oat acreage. Rodney reached its peak of popularity in 1961 when it occupied 74.8% of the total.

The introduction of the high yielding, stem rust resistant variety Russell resulted in a decline in the acreage of Rodney in 1966. In 1966 Russell accounted for 15.9% of the Manitoba oat acreage. The new Garry variety, which was released in 1953, was readily accepted by Manitoba farmers so that by 1956 it occupied 13.8% of the provincial oat acreage. Garry reached its peak about 1961, a year in which it accounted for 18.1% of the oat acreage. The popularity of Garry declined to some extent after 1961. Three rust resistant oat varieties - Rodney (64.8%), Russell (15.9%), and Garry (15.4%) - accounted for 96.1% of the total Manitoba oat acreage in 1966.

SASKATCHEWAN (Table 2)

The old varieties Victory and Banner were quite widely grown in Saskatchewan in 1946. However, these varieties declined steadily in popularity as new disease resistant varieties were introduced.

The popularity of Vanguard, which was released to farmers in 1936, reached its peak of popularity in Saskatchewan before 1946. In 1946, however, it still accounted for 13.3% of the provincial oat acreage. The rust resistant variety Ajax gained in popularity after it was introduced in 1941. Exeter, which was also introduced in 1941, was not grown on any appreciable acreage in Saskatchewan until 1951. In that year it occupied

21.7% of the provincial oat acreage. After 1951 there was a steady decline in the acreage devoted to Ajax and Exeter. This decline was due largely to the new high yielding, rust resistant varieties Rodney and Garry which increased progressively in popularity from 1956 to 1966. Together, in 1966 they accounted for 75.3% of the total oat acreage of Saskatchewan.

Fortune, a variety developed at the University of Saskatchewan, was distributed to farmers in 1948. It accounted for 9% of the provincial oat acreage in 1956. However, it did not retain this popularity long. The acreage devoted to Fortune declined as the popularity of Rodney and Garry increased. During the period 1946 to 1956 the varieties Beaver, Eagle, Larain, Abegweit, Glen and Gopher were grown only on a limited scale in Saskatchewan. They gave way to superior varieties; varieties which were resistant to stem rust and other diseases, higher yielding, and of better quality, for the most part.

ALBERTA (Table 3)

As rust does not present a serious disease problem in Alberta, oat varietal changes in this province have not been as marked as those occurring in Manitoba and Saskatchewan. Victory, for instance, a variety that has no resistance to the rusts or the smuts, has been widely grown in Alberta since it was introduced into Canada from Sweden in 1911.

In 1946 and 1951, Victory was grown on more than 55% of the total oat acreage of Alberta. In fact it was the leading variety in this province until it was replaced by Rodney in 1961. However, even in 1961 and in 1966, Victory was the second most important variety of oats in Alberta, accounting for 32.7% and 30.2% of the provincial oat acreage, respectively. Banner, another famous old variety, was the second most important variety in Alberta in 1946 after which it steadily declined in popularity. Banner occupied only 1.4% of the total provincial oat acreage in 1966.

The most outstanding recent change in the distribution of oat varieties in Alberta was brought about by the rapid acceptance of the variety Rodney. This variety was distributed to farmers in 1953. Eight years later, in 1961, it was the leading variety in Alberta, accounting for 33.2% of the provincial oat acreage.

It is apparent from Table 3 that a relatively small number of oat varieties account for a very large percentage of the area devoted to oats in Alberta. In 1966, for instance, four varieties - Rodney, Victory, Eagle and Garry - occupied 85.9% of the provincial oat acreage. Ajax and Larain were quite prominent in Alberta in 1951, but lost their popularity after Rodney was introduced. They have been replaced by new varieties that are more resistant to disease and better adapted to certain areas.

PRAIRIE PROVINCES (Table 4)

Of the ten oat varieties reported as grown in the Prairie Provinces in 1946 only Victory was grown on any appreciable acreage in 1966.

Victory was the third most important variety in the Prairie Provinces in 1966, accounting for 13.0% of the total prairie oat acreage. Several oat varieties that were important in the earlier years during the 1946 to 1966 period have nearly or completely disappeared. Such, for example, are the once well known varieties Banner, Vanguard, Gopher and Legacy. They have given way to superior varieties; varieties better adapted to certain areas, more resistant to disease, and of better quality for the most part. Other varieties, though less important than formerly, nevertheless continue to play an important role in certain areas of the Prairie Provinces. Examples of such varieties are Ajax, Exeter and Eagle.

One of the most outstanding changes shown by Table 4 is the rapid adaptation by prairie farmers of the variety Rodney. In 1956, three years after it was introduced, Rodney became the leading oat variety in the Prairie Provinces accounting for 27.6% of the total oat acreage. It was also the leading variety in 1961 when it occupied 44.3% of the total. Rodney was by far the most widely grown variety in 1966, a year in which it accounted for as much as 46.6% of the area seeded to oats in the Prairie Provinces. Garry is a variety that has continued to increase in popularity in recent years. In 1966 it accounted for as much as 19.3% of the prairie oat acreage.

Eventually, no doubt, the races of rust and of smut to which the varieties Rodney and Garry are susceptible will become established in Western Canada. If this happens new sources of resistance to these diseases must be found. There is little doubt, however, that in the years ahead new and improved varieties of oats, such as the recently released variety Harmon, will be developed and made available to oat growers in the Prairie Provinces. It is apparent that as the years go by studies on the more fundamental aspects of genetics and plant breeding will become increasingly important if new varieties of oats superior to those now grown are to be produced.

The present surveys furnish an historical record of the changes in the varieties of oats grown in Manitoba, Saskatchewan and Alberta during the twenty-year period 1946 to 1966. They also emphasize the desirability of having available varieties of oats that are adapted to specific areas. It is hoped that the varietal survey results presented in this circular will be helpful in leading to the development of varieties of oats that are superior to those presently grown in the Prairie Provinces.

ACKNOWLEDGEMENTS

The Line Elevators Farm Service is indebted to all Agents, past and present, of the Line Elevator Companies, sponsors of the Farm Service Department who, during the 20-year period 1946 to 1966, provided the basic information of the oat varietal surveys reported in this circular. Special credit is due to J. Barnes, Chief Seed Technician, Line Elevators Farm Service, for his assistance in recording and tabulating the survey results.

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November, 1966

F. J. Greaney, Director.

Table 1. Distribution of oat varieties. Estimated percentage of the total oat acreage of Manitoba occupied by individual varieties of oats at 5-year intervals since 1946. Varieties arranged in order of importance for 1966.

Variety	Percentage of Acreage ^{1/}				
	1946	1951	1956	1961	1966
Rodney	-	-	66.3	74.8	64.8
Russell	-	-	-	(*)	15.9
Garry	(*)	2.3	13.8	18.1	15.4
Exeter	3.9	32.0	8.1	2.0	1.1
Larain	(*)	0.3	0.1	0.1	0.8
Ajax	31.9	33.5	7.9	2.1	0.6
Vanguard	42.8	23.4	2.2	0.1	0.4
Victory	7.4	3.2	0.4	(*)	0.2
Harmon	-	-	-	-	0.2
Gopher	6.8	2.1	0.2	0.1	(*)
Banner	3.2	0.8	(*)	(*)	-
Fortune	-	0.5	0.3	(*)	(*)
Vicar	-	(*)	(*)	(*)	-
Others ^{2/}	4.0	1.9	0.7	2.7	0.6
Total	100.0	100.0	100.0	100.0	100.0

^{1/} The asterisk (*) indicates a variety reported as grown, but the estimate of acreage was less than 0.1% of the total oat acreage of Manitoba. The percentage estimates for 1966 are not weighted.

^{2/} Includes the following varieties: Abundance, Glen, Hulless and Pendek.

^{3/} Includes the following varieties: Hulless, Pendek and Harmon.

Table 2. Distribution of oat varieties. Estimated percentage of the total oat acreage of Saskatchewan occupied by individual varieties of oats at 5-year intervals since 1946. Varieties arranged in order of importance for 1966.

Variety	Percentage of Acreage ^{1/}				
	1946	1951	1956	1961	1966
Rodney	-	-	31.1	46.8	49.6
Garry	-	0.8	4.2	22.5	25.7
Victory	40.5	31.9	12.4	7.8	6.3
Ajax	18.9	24.4	16.1	7.8	5.6
Exeter	1.6	21.7	18.8	7.4	3.8
Fortune	-	2.9	9.0	3.3	2.2
Russell	-	-	-	(*)	1.7
Vanguard	13.3	4.6	1.6	0.6	0.8
Banner	18.0	7.3	2.4	0.9	0.7
Glen	-	-	(*)	(*)	0.7
Larain	(*)	0.5	0.3	0.3	0.4
Eagle	0.4	0.2	0.4	0.1	0.1
Gopher	4.9	3.9	1.0	0.6	(*)
Abegweit	-	(*)	0.2	0.1	(*)
Beaver	-	(*)	0.1	0.1	(*)
Abundance	0.6	(*)	-	-	-
Others ^{2/}	1.8	1.8	2.4	1.7	2.4
Total	100.0	100.0	100.0	100.0	100.0

^{1/} The asterisk (*) indicates a variety reported as grown, but the estimate of acreage was less than 0.1% of the total oat acreage of Saskatchewan. The percentage estimates for 1966 are not weighted.

^{2/} Includes the following varieties: Hulless, Pendek and Harmon.

Table 3. Distribution of oat varieties. Estimated percentage of the total oat acreage of Alberta occupied by individual varieties of oats at 5-year intervals since 1946. Varieties arranged in order of importance for 1966.

Variety	Percentage of Acreage ^{1/}				
	1946	1951	1956	1961	1966
Rodney	-	-	10.3	33.2	33.7
Victory	56.9	55.5	46.3	32.7	30.2
Eagle	4.7	10.2	14.3	12.6	12.5
Garry	(*)	0.2	0.6	8.8	9.5
Glen	-	-	(*)	(*)	5.7
Larain	(*)	9.2	9.9	2.9	1.9
Banner	19.1	9.2	3.4	1.1	1.4
Ajax	4.6	8.8	6.9	3.6	1.1
Exeter	0.1	0.9	1.7	0.9	0.8
Abegweit	-	(*)	0.8	2.1	0.6
Russell	-	-	-	(*)	0.4
Fortune	-	0.2	0.7	0.2	0.3
Pendek	-	-	-	(*)	0.2
Vanguard	1.9	1.7	0.5	0.2	0.1
Beaver	(*)	2.2	2.6	0.7	(*)
Gopher	0.3	0.3	0.2	0.1	(*)
Legacy	7.7	(*)	-	-	-
Abundance	3.0	(*)	-	-	-
Others ^{2/}	1.7	1.6	1.8	0.9	1.6
Total	100.0	100.0	100.0	100.0	100.0

^{1/} The asterisk (*) indicates a variety reported as grown, but the estimate of acreage was less than 0.1% of the total oat acreage of Alberta. The percentage estimates for 1966 are not weighted.

^{2/} Includes the following varieties: Hulless, Erban and Vicar.

Table 4. Distribution of oat varieties. Estimated percentage of the total oat acreage of the Prairie Provinces occupied by individual varieties of oats at 5-year intervals since 1946. Varieties arranged in order of importance for 1966.

Variety	Percentage of Acreage ^{1/}				
	1946	1951	1956	1961	1966
Rodney	-	-	27.6	44.3	46.6
Garry	-	0.7	4.0	15.3	19.3
Victory	41.6	37.8	24.6	18.6	13.0
Eagle	1.8	4.1	6.1	6.1	4.0
Ajax	15.9	19.3	11.2	5.0	3.6
Russell	-	-	-	(*)	3.1
Exeter	1.4	14.7	10.2	3.5	2.5
Glen	-	-	(*)	(*)	2.2
Fortune	-	1.6	4.4	1.4	1.3
Larain	(*)	3.9	4.2	1.5	0.9
Banner	16.3	7.3	2.5	0.9	0.8
Vanguard	13.5	5.7	1.2	0.3	0.5
Abegweit	-	(*)	0.4	1.0	0.2
Gopher	3.6	2.3	0.6	0.3	(*)
Beaver	-	0.9	1.1	0.4	(*)
Legacy	2.6	(*)	(*)	(*)	-
Abundance	1.3	(*)	-	-	-
Others ^{2/}	2.0	1.7	1.9	1.4	2.0
Total	100.0	100.0	100.0	100.0	100.0

^{1/} The asterisk (*) indicates a variety reported as grown, but the estimate of acreage was less than 0.1% of the total oat acreage of the Prairie Provinces. The percentage estimates for 1966 are not weighted.

^{2/} Includes the following varieties: Hulless, Erban, Pendek and Harmon.

Table A. Distribution of cat varieties. Estimated percentage of the total cat average of the Prairie Provinces occupied by individual varieties of cats at 5-year intervals since 1946. Varieties arranged in order of importance for 1966.

Variety	Percentage of Average				
	1946	1951	1956	1961	1966
Total	100.0	100.0	100.0	100.0	100.0
Others 2/	2.0	1.7	1.9	1.4	2.0
Abundance	1.3	(*)	-	-	-
Legacy	2.6	(*)	(*)	(*)	(*)
Beaver	-	0.9	1.1	0.4	(*)
Gopher	3.6	2.3	0.6	0.3	(*)
Abegweit	-	(*)	0.4	1.0	0.2
Vanguard	13.3	5.7	1.2	0.3	0.2
Banner	16.3	7.3	2.2	0.9	0.8
Larkin	(*)	3.9	4.2	1.2	0.9
Fortune	-	1.6	4.4	1.4	1.3
Glen	-	-	(*)	(*)	2.2
Exeter	1.4	14.7	10.2	3.2	2.2
Russell	-	-	-	(*)	3.1
Ajax	12.9	19.3	11.2	2.0	3.6
Eagle	1.8	4.1	6.1	6.1	4.0
Victory	41.6	37.6	24.6	18.6	13.0
Garry	-	0.7	4.0	12.3	19.3
Rodney	-	-	27.6	44.3	66.6

1/ The asterisk (*) indicates a variety reported as grown, but the estimate of average was less than 0.1% of the total cat average of the Prairie Provinces. The percentage estimates for 1966 are not weighted.

2/ Includes the following varieties: Hilleas, Ertan, Pender and Harrow.

